Proceeding to the outlying parts of the Australian region, we find New Zealand also well provided with Anatidæ, nine species being comprehended by Dr. Buller in his lately-published work on the birds of New Zealand, while the adjacent Auckland Islands are tenanted by two very peculiar ducks, quite unknown elsewhere, namely *Nesonetta aucklandica* and *Mergus australis*.

In Polynesia Anatidæ are scarce, *Dendrocygna vagans* and *Anas superciliosa* being the only species known until we come to the Fanning group, where the peculiar *Chaulelasmus couesi* has lately been discovered.

In the Sandwich Islands two peculiar species occur, *Bernicla sandvicensis* and *Anas wyvilliana*.

V. NEOTROPICAL ANATIDÆ.—The Neotropical region is better supplied with Anatidæ than any other of the divisions here adopted except the Arctic, thirty-nine species being specially attributable to it. Besides these, as Mr. Salvin and I have shown in our articles on the Neotropical Anatidæ published in the Society's *Proceedings* for 1876,[1] twenty-three of the Arctic Anatidæ are more or less regular visitants to it during the winter season.

The generic types of Anatidæ restricted to the Neotropical area are four, namely, *Heteronetta*, *Cairina*, *Tachyeres*, and *Merganetta*. There are, however, only six species belonging to these peculiar genera, so that the mass of the Neotropical Anatidæ belong to Arctic forms.

On the whole the Neotropical Anatifauna (if such an expression be allowable) is not so peculiar, as that of Australia, where there are five generic types not found elsewhere. In true Anatidæ the Neotropical region is specially rich, possessing twenty-three species against the Arctic eighteen.

In *Fuligulinæ*, on the other hand, it is very poor, having only one species against the Arctic twenty-six.

In concluding my lecture I would venture to urge those who have friends and correspondents abroad, or who are so fortunate as to travel themselves, not to let any opportunity pass of adding to the Society's living collection of Waterfowl. In a paper recently read before the Zoological Society I have given a complete list of the known species of these beautiful birds, and an exact account of the introduction of each species that has been obtained alive, and if not, where it is to be found. I shall be happy to supply any one interested in the subject with a copy of this paper when in type, as it will shortly be. Meanwhile I may venture to specify some of our principal desiderata in different parts of the world.

1. Freshly-imported examples of the *Cereopsis* goose of Australia to cross with the present European stock.

2. Examples of the *Bernicla cyanoptera* of the highlands of Abyssinia, never yet obtained alive.

3. Examples of David's swan (*Cygnus davidi*) from Pekin. Even skins of this little known bird would be very desirable for our museums.

4. Specimens of the canvas-backed duck and smaller white swan (*Cygnus americanus*) of North America.

5. The pink-headed duck of India, of which we have only yet received a single pair in 1874.

6. The Radjah shieldrake of Queensland (*Tadorna radjah*), a most beautiful species allied to our *Tadorna vulpanser*.

Any examples of these species would be most gratefully received by the Society for their living collection.

NOTES

As we have already intimated, the German Association of Naturalists and Physicians meets at Danzig from September 18 to 24. Contributions from non-German workers in science are earnestly asked for, and we are sure that any foreigners who desire to be present at the meeting will receive a hearty welcome. Applications for quarters should be made before September 10 to Herr L. Biber, Brodbänkengasse 13, Danzig. Besides the usual excursions, concerts, and other social gatherings which the Germans know how to manage so well, there will be plenty of work in the twenty-three sections. Among the public lectures to be given are the following:—On September 8, "On Writing, Printing, and the Prevailing Shortsightedness," by Dr. Hermann Cohn of Breslau; "On some Characteristics of Cell-life," by Dr. Strasburger of Jena. September 21—"The Food of Marine Animals," by Dr. Moebius of Kiel; "The Statics of Continents and the alleged decrease of the Water of the Ocean," by Dr. Jentzsch, of Königsberg; "The Scientific Standpoint of Psychiatry," by Dr. Wernecke of Berlin. September 24—"Polar Expeditions or Polar Observatories," by Dr. Neumayer of Hamburg; "Foreign Domestic Birds, with special reference to the scientific results of their Breeding," by Dr. Carl Russ of Steglitz.

MUCH capital is being made out of the reports of some of the inspectors in the new Education Report, who attempt to enliven their pages by giving some of the results of the recent attempts at higher education in elementary schools. The answers are certainly ludicrous enough sometimes, almost as ludicrous as those said to be given occasionally by the undergraduates of Oxford and Cambridge. But the rational conclusion to be drawn from this state of things is not that which finds favour with Lord Norton and his friends, that the attempt to improve elementary education should be abandoned. As the *Times* well puts it:—"They are firstfruits of the attempt to put to a higher and more exacting work instruments fashioned for a lower and a simpler one. All such results are at first necessarily imperfect, and nothing is easier than to make them appear ridiculous. The true remedy, however, is not to reject the instruments, but to adapt them, or give them the means of adapting themselves, to the higher function." If science is to be taught in elementary schools, let it be taught in a proper manner by properly trained men.

EVIDENTLY the Government of New Zealand have no fear of over-educating the people. From the *Colonies* we learn that the New Zealand system of education has been characterised by the Governor, Sir H. Robinson, as "the most ambitious yet adopted in any country in the world." To quote the words of Sir Hercules:—"It is proposed in New Zealand to provide the whole juvenile population with instruction free of charge in the following subjects:—Reading, writing, arithmetic, English grammar and composition, geography, history, elementary science, drawing, object lessons, vocal music, drill, and, in case of girls, needlework and the principles of domestic economy. The scheme includes also provision at the public expense for a system of scholarships, for the maintenance of normal schools for training teachers, for the efficient inspection of public schools, and for the erection of suitable school buildings. As soon as sufficient school accommodation has been provided the Education Act contemplates that attendance at public schools shall be made compulsory on all children between the ages of seven and thirteen who may not be otherwise under efficient or regular instruction." While Sir Hercules thinks the programme may be too varied and too costly, he attaches little weight to the objection that there is a risk of over-educating the masses above their occupations and so making them discontented with their lot in life. While he criticises the scheme in some of its details, still he says:—"I think that your scheme of national education is one of which any country might well feel proud, and that it is being administered with an earnestness and an ability which is deserving of all praise. I have been much struck, in travelling about the country, with the deep interest which is universally taken in this most important question, and with the determination which pervades the whole community that the blessings of education shall for the future be placed within the reach of all.

[1] Revision of the Neotropical Anatidæ, *Proc. Zool. Soc.*, 1876, p. 358.

With such a healthy, vigorous motive power, supervised and directed with so much intelligence, any defects in the driving gear of the machinery will soon be detected and corrected, until the object which all have equally at heart is fully attained, and New Zealand is placed in the front rank amongst the educated communities of the world."

THE Trustees of the British Museum appear to be determined to earn the reputation of hopeless incapacity for appreciating science. Everybody knows how completely successful has been the experiment of furnishing the reading-room of the British Museum with the electric light, and what an impetus this has given to the use of the British Museum Library. A few days ago a question was asked in the House of Commons by Mr. D. Grant, whether the Trustees were prepared to make arrangements for lighting the building so that the scientific collections and other portions of it might remain open to the public until 10 p.m. The answer returned by Mr. Walpole on behalf of the Trustees was unsatisfactory enough. The use of gas would be deleterious to sculptures and books; and experience would not "justify" a more extended use of the electric light in the exhibition-rooms and long galleries. The body of Trustees, though they may be admirable custodians of the national library, appear to have the most limited and provincial notions with respect to the scientific collections which are committed to their charge.

THE ways of official French science are somewhat inscrutable. Some months ago we notified our readers that the *prix Volta*, instituted by Napoleon, had been awarded to Graham Bell for the articulating telephone. It appears that this award was made in accordance with the report of a commission appointed in 1876, of which M. Dumas was president and M. Becquerel secretary, the Commission being unanimous in their award. In their report they also mentioned with high approval the names of M. Gramme, the inventor of the Gramme machines, M. Gaston Planté, whose researches on secondary batteries, &c., are now so well known, and Dr. Onimus, who has done much to advance our knowledge of electro-physiology. But in passing through the hands of the Minister of Public Instruction this report was manipulated in order to please the national vanity by lifting up the claims of M. Gramme above those of MM. Planté and Onimus, and eventually a grant of 70,000 francs was voted by the Chamber, 50,000 francs being the prize awarded to Prof. Bell, and 20,000 francs to M. Gramme. No one will grudge M. Gramme his prize, though we cannot help thinking that this secondary award will give rise to invidious comparisons of claims, for M. Gramme is not the first nor yet the last in the field amongst electrical engineers and inventors.

THE fund established by the Birmingham Philosophical Society for the endowment of scientific research now amounts to 820*l.*, which will be invested, the interest only to be used. The subscription list amounts to over 80*l.* a year. A donation of 25*l.* has been received from Mr. Charles Darwin, who, in a letter received from him by Mr. Lawson Tait, a member of the council of the Society, says:—"I saw something in the newspapers about the fund, and admire greatly the noble spirit of Birmingham."

WE have often referred to the enterprise of the Midland Union of Natural History Societies, and now they have gone in for the encouragement, if not the endowment, of original research. The Council, at the last annual meeting at Northampton, submitted for consideration a proposal to the effect that an annual prize should be provided for the purpose of recognising and encouraging original research by members of the societies in the Union. After careful consideration by the committee at a meeting held at Birmingham on July 15, the following scheme was adopted:—1. That a prize (by permission of Mr. Ch. Darwin, F.R.S., to be called "The Darwin Prize") of the value of 10*l.*, to include a gold or bronze "Darwin Medal," at the option of the successful candidate, be given annually for a paper indicating original research upon a subject within the scope of the societies in the Union, contributed by a member for publication in the journal of the Union. 2. That the subjects for "The Darwin Prize" for the three years ensuing be limited as under:—In 1881 to Geology, in 1882 to Biology, in 1883 to Archæology. 3. That a committee of five, annually elected for the purpose by the Committee of Management, adjudicate the prize to such paper, of sufficient merit, on the subject of the year, contributed as aforesaid to the journal of the Union (the *Midland Naturalist*), either actually published or sent in for publication during the twelve months preceding March 31 of that year, and declare the adjudication at the annual meeting. 4. That right be reserved for the adjudicators to withhold the prize if in their opinion no contribution has been sent in of sufficient merit. The scheme is a happy one, and might with great advantage be adopted by other groups of societies all over the kingdom. Mr. Darwin, in giving permission for the use of his name in connection with the medal, says: "It is particularly pleasing to me to have my name connected, in however indirect a manner, with a scheme for advancing science—the study of which has been my chief source of happiness throughout life."

THE death is announced of M. Lissajous, the discoverer of the well-known Lissajous figures, and author of a number of elegant and valuable scientific memoirs. M. Lissajous, who was Professor of Physics at Toulouse, was one of the founders of the Société Française de Physique.

A COMMITTEE has been formed to erect a statue to the late Dr. Broca by public subscription.

WE have received the following details with reference to the career of the late Mr. W. A. Lloyd:—Born in Wales, he early developed a taste for study, and in his early years went deeply into such subjects as archæology, numismatics, and heraldry. In 1852 he turned his mind to natural history, especially as regards marine life. The first really successful marine aquarium was that at Hamburg, which was wholly devised by him, and in which the circulating principle was the great element of success. In 1870 he was engaged by the Crystal Palace Company to construct and superintend the fine aquarium there, which, although not large, is probably one of the best existing. His reputation spread, and he was consulted for almost every new aquarium that was projected. Besides his practical knowledge of the aquarium, he was a man of very considerable culture, and contributed largely to the literature of the subject. At the time of his death he was engaged on a work comprising all his life-long experience, which unfortunately he has not completed. His death, at the age of fifty-six (July 13), was the result of effusion of blood on the brain, and took place at his study table, where he was at work. Mr. Lloyd was connected with aquaria at Paris, Vienna, Dresden, Frankfort, Naples, New York, San Francisco, Melbourne, Adelaide, Calcutta, Rhyl, Yarmouth, Tynemouth, Nottingham, Morecambe, Edinburgh, Westminster, Southport, Rothesay, Aston, and possessed the only medals (gold, silver, and bronze) ever awarded for aquaria.

THE Committee of Council of the British Medical Association have awarded the gold medal of the Association to William Farr, C.B., M.D., F.R.S., D.C.L., "as an expression of their high appreciation of his long, unwearied, and successful labours in behalf of statistical and sanitary science; as a recognition of the light he has thrown upon many physiological and pathological problems; and on account of the extraordinary services

his work has rendered to the advancement of the health of the nation." The presentation will be made in the Senate House, Cambridge, on Thursday, August 12, at half-past twelve in the afternoon.

THE French Parliament has voted a sum of 300,000 francs for purchasing from the City of Paris the grounds which had been rented for a nominal sum to M. Leverrier by the Municipal Council, and had been already annexed by the great astronomer to the Observatory. The reason for this resolution is the impending erection of a new monument, which, according to the provision of the French law, cannot be built except on ground the freehold of which belongs to the Government.

THE first of the great annual Congresses, that of the Archæological Institute, commenced proceedings at Lincoln on Tuesday.

THE summer meeting of the Institution of Mechanical Engineers will be held at Barrow-in-Furness from Tuesday to Friday next week. A number of technical papers will be read, and several interesting excursions have been arranged for.

SIR W. HARCOURT stated in the House of Commons on Thursday that the Commissioners on Explosions in Coal Mines hoped to make their report at the end of the present or beginning of next year.

THE first annual meeting in connection with the Parkes Museum of Hygiene was held at the Mansion House on Tuesday, when a number of eminent medical men were present. The Museum has so expanded that a building specially designed for it has become necessary. It has attracted a considerable number of visitors, and during the past winter a series of demonstrations have been given by members of the executive committee. The various speakers testified to the great educational value of such a museum, and the absolute necessity for all classes to know something about sanitary science.

THE Council of Public Hygiene of Paris, on the proposition of M. Pasteur, has decided to erect two establishments, one at each end of Paris, intended for the disinfection by steam of all furniture or clothing contaminated by individuals attacked by any contagious diseases.

AN official despatch from Manila of the 20th inst., giving some additional particulars of the earthquake, states that the first shock lasted seventy seconds, and that nine of the native inhabitants were killed and eleven others injured. A second shock, lasting forty seconds, occurred at four o'clock in the afternoon. At Leguno and Rabacan some of the public buildings were also thrown down. The earth opened in several places, and jets of boiling water and showers of ashes were ejected from the fissures. Another shock is stated to have occurred on the evening of the 24th. Other accounts received state that the period of seismic disturbance commenced on the 13th inst., and that repeated shocks have occurred since then, those of the 13th and 20th inst. being the most violent. The cathedral and the barracks at Manila have fallen in, and the troops are now encamped outside the city. Almost all the volcanoes of the island of Luzon are in full activity.

A SHARP shock of earthquake occurred at Naples at 3.30 on Sunday morning, preceded by lighter shocks at regular intervals, beginning at 9.30 the previous night. The principal shock was undulatory from east to west, lasting five seconds, and was sufficiently strong to awake all the inhabitants of Portici. Vesuvius shows increased activity. Several new fissures have opened, sending lava streams eastwards.

THE Epping Forest and County of Essex Naturalists' Field Club held a meeting at Ilford last Saturday for the purpose of visiting the well-known pits which have yielded such a rich harvest of Post-glacial mammals, &c. A well-preserved jaw of *Bos primigenius* was exhumed in the presence of the members. The zoology of the period and the geology of the district were respectively treated of by Sir Antonio Brady and Mr. Henry Walker, the conductors for the occasion. After spending some time in the pits the meeting adjourned for tea to the "Angel Inn." The president announced that as the result of the Field Meeting at the ancient earthworks in Epping Forest (already noticed in these columns) it was decided, in accordance with a suggestion made by Major-General Pitt-Rivers, to apply for permission to excavate in one or both of the camps, and to start a fund for this purpose. As the period of these camps was quite unknown, this would be the only method of arriving at any definite conclusion concerning them. A discussion upon the results of the afternoon's excursion then took place. Sir Antonio Brady brought for exhibition a large number of specimens from his valuable collection of Palæolithic and Neolithic remains; and remarks of great scientific interest were made by Mr. A. R. Wallace, Mr. Worthington Smith, &c. The Club appears to be in a flourishing condition, as it already numbers over 200 members.

M. GAUTHIER VILLARS is publishing, at the expense of the Laplace family, a new edition of the works of the illustrious astronomer. The reason of this republication is very singular. The widow of the Marquis de Laplace bequeathed a certain sum of money to the Academy in order to deliver every year a copy of the works of her husband to the youth who obtains the first rank in the leaving examinations at the Polytechnic School. But latterly it has become almost impossible to find these volumes in the trade. M. Gauthier Villars and executors *in perpetuo* are obliged to deliver gratis a copy every year to the Academy.

PROF. CHURCH was lecturing last week at the Cirencester Agricultural College on "Some Recent Advances in Agricultural Chemistry."

A FRENCH journal states that the first astronomical instruments intended for a great astronomical observatory, to be established at the Trocadéro, have been recently mounted on the first terrace of the east tower of the palace.

ON August 8 the pupils of all the schools of the Arts et Métiers of France meet at Liancourt to celebrate the 100th anniversary of the foundation by the Duc de la Rochefoucault-Liancourt of the first establishment of this kind at his private residence. There are four of these useful schools—Aix, Angers, Chalons, and Cluses—in existence in France, and one in Algeria, of very recent creation, at Delhys. It is said that each of the two provinces of Oran and Constantine will establish, at their own expense, a similar institution.

THE President of the Republic has conferred a knighthood in the Legion of Honour on M. Serrin, the inventor of the first regulator which could be used in lighthouses; and on M. Gariel, the general secretary of the French Association for the Advancement of Science, who will lecture on Radiant Matter at Rheims in the forthcoming session.

"TASMANIAN Friends and Foes, Feathered, Furred, and Finned," is the title of a work, illustrated by woodcuts and coloured plates, upon the Natural History of Tasmania, to be issued this autumn by Messrs. Marcus Ward and Co. The volume is from the pen of Mrs. L. A. Meredith, the author of several well-known works upon this colony, and gives in a popular style accounts of the kangaroos, bandicoots, wombats, and other marsupials, the birds and fishes. Several of the species described the author believes to be new to science, and the marvellous intelligence displayed by some of these lowly-

classified mammals when kept by the author as household pets will be both new and interesting to English readers.

THE additions to the Zoological Society's Gardens during the past week include a Green Monkey (*Cercopithecus callitrichus*) from West Africa, presented by Mr. Fred Peake, F.Z.S.; a Great Eagle Owl (*Bubo maximus*) from Nyland, South Finland, presented by Mr. Lindsay von Julin; two Ocellated Turkeys (*Meleagris ocellata*) from Yucatan, Mexico, presented by Mr. W. E. Sibeth; a Crimson-crowned Weaver Bird (*Euplectes flammiceps*), two Red-backed Pelicans (*Pelecanus rufescens*) from West Africa, two Common Blue Birds (*Sialia wilsonii*) from North America, two Great Eagle Owls (*Bubo maximus*) from India, five Four-rayed Snakes (*Elaphis quater-radiatus*), a Black-spotted Snake (*Elaphis dione*), a Lacertine Snake (*Cælopeltis lacertina*), four Dahl's Snakes (*Zamenis dahli*), thirteen Vivacious Snakes (*Tachymenis vivax*), a Four-lined Snake (*Coluber quadrilineatus—var. leopardinus*), South European, deposited; five Australian Wild Ducks (*Anas superciliosa*), three Garganey Teal (*Querquedula circia*), three Common Teal (*Querquedula crecca*), two Horned Tragopans (*Ceriornis satyra*), a Peacock Pheasant (*Polyplectron chinquis*) a Bronze-winged Pigeon (*Phaps chalcoptera*), bred in the Gardens.

OUR ASTRONOMICAL COLUMN

FAYE'S COMET.—The following ephemeris of this comet is for Berlin midnight, and is calculated from elements accurately perturbed to the approaching perihelion passage, which were communicated by Dr. Axel Möller to the Academy of Sciences at Stockholm in September, 1878:—

	R.A. h. m. s.	Decl. N. ° ′	Log. dist. from Earth.
Aug. 1	23 16 14	10 35·5	0·1859
3	— 16 16	10 40·3	0·1784
5	— 16 12	10 44·3	0·1709
7	— 16 3	10 47·2	0·1635
9	— 15 48	10 49·2	0·1562
11	— 15 28	10 50·2	0·1490
13	— 15 3	10 50·1	0·1419
15	— 14 33	10 48·9	0·1349
17	— 13 57	10 46·6	0·1280
19	— 13 17	10 43·2	0·1213
21	— 12 31	10 38·6	0·1147
23	— 11 42	10 32·8	0·1083
25	— 10 47	10 25·8	0·1021
27	— 9 49	10 17·5	0·0961
29	— 8 47	10 8·0	0·0903
31	23 7 41	9 57·3	0·0847

The theoretical intensity of light at the end of the month will be twice as great as at the beginning, when it somewhat exceeds that corresponding to the last observation at Pulkowa in March, 1866. At the return in 1873 the comet was observed on four nights only at Marseilles and at Clinton, New York; the admirable calculations of Dr. Axel Möller gave positions which exhibited hardly appreciable differences from the observations. In the present year it will be nearest to the earth on October 3 (distance = 1·09), and perhaps most favourably circumstanced for observation during the last ten days of the same month, though at no time does the intensity of light exceed its value on October 16, 1858, when the comet was last observed at that appearance with the 10-inch Berlin refractor. The perihelion passage does not take place until January 22, 1881, and although Dr. Axel Möller's ephemeris does not extend beyond the end of the present year, it appears possible that the comet may be observed till quite the end of next February, when its place will still be commanded on a dark sky-ground, or perhaps later; indeed, on April 26, when the comet sets three hours after the sun, its intensity of light is equal to that at the last observation at Pulkowa in 1844.

THE OBSERVATORY, CHICAGO.—The "Annual Report of the Board of Directors of the Chicago Astronomical Society, together with the Report of the Director of the Dearborn Observatory," dated May 13, 1880, is before us. During the preceding year the Observatory had been in charge of Prof. G. W. Hough, formerly of the Dudley Observatory, Albany, Prof. Colbert and Mr. S. W. Burnham taking part in the regular work with the 18½-inch Alvan-Clark refractor. Mr. Burnham's attention, as in previous years, was chiefly directed to the measurement of double stars, including the more interesting binary systems and objects beyond the scope of smaller instruments. A series of observations of the planet Jupiter was commenced on August 27, 1879, and continued on every fine night till February 11. With a magnifying power of 638 the disk was measured on eight nights by Prof. Hough, and six by Prof. Colbert, the resulting values for ellipticity being respectively 1-16·23 and 1-16·73, sensibly smaller than Struve's value, though not differing much from other more recent determinations. The measures further showed "the figure of Jupiter's disk to be a true geometrical spheroid." The belt system during the opposition of 1879 is indicated by the following numbers, the equatorial diameter at the planet's mean distance being 38″·70, and the polar diameter 36″·32.

No. 1 ... + 15″·10		No. 5 ... − 5″·83
,, 2 ... + 9·78		,, − ... − 6·94 Red spot.
,, 3 ... + 5·98		,, 6 ... − 9·83
,, 4 ... + 2·59	N. edge of equat. belt.	,, 7 ... − 13·84
,, − ... − 3·18	S. edge of equat. belt.	

An examination of which shows that the belts were symmetrically arranged on either side of the equator, the large red spot coinciding nearly with belt (5). Prof. Hough remarks that the faint belts are not seen with small instruments, in which there is merely a darkening towards the poles. The middle of the great equatorial belt was subject to gradual change in its appearance between September 1 and November 1. At first it was made up essentially of three separate belts, approximately of equal width; gradually it formed in two nearly equal portions with a rift extending through a large part of the planet's circumference. The colour of the equatorial belt was reddish-brown—brick colour.

The red spot was studied from September 3 to February 10. Its colour was similar to that of the equatorial belt, but brighter, and appeared sensibly the same when only partially on the disk as when on the centre. The mean value of its length at the centre of the disk was 12″·73, and its breadth 3″·56, for Jupiter's mean distance; the length appeared to vary to the extent of two seconds, and the breadth about the same amount, but owing to the irregular outline of the object it was difficult to decide whether actual change took place, or whether the discordances in the measures were due to indifferent vision. By observations extending from September 25 to February 10 the time of sidereal rotation was found by Prof. Colbert to be 9h. 55m. 34·2s. The diameters of the satellites were measured on three nights with the following results for the planet's mean distance:—

I. 1″·114 ... II. 0″·980 ... III. 1″·778 ... IV. 1″·457

Prof. Hough states that the two interior satellites of Uranus reported by the Washington observers to be "the most difficult well-known objects in the heavens" can be "readily seen and measured under ordinary atmospheric conditions" with the Chicago refractor: micrometrical observations of *Ariel* were obtained on four nights, *Umbriel* appears to have been measured on one night only, but the weather was unusually adverse to this class of observations.

PHYSICAL NOTES

A SINGULAR phenomenon was seen (according to the *New York World*) recently off the coast of Florida by the officers of the brigantine *Fortunate*. Shortly after dark two columns of fire appeared, seemingly a mile away. They were fifty yards apart and about 500 feet high, arching towards one another at the top, but without meeting. They were of a dull red colour, without sparks; but the arching portions emitted tremulous rays or streamers of light like those of the aurora. They were visible all night, but faded at daybreak. The weather was fine, not a cloud being seen all night. The following day there was a gale of wind accompanied by thunder, but no rain. It is not stated in what quarter of the heavens the appearance was seen. Could it have been an *aurora?*

M. MARCEL DEPREZ, the ingenious inventor of many pieces of electrical apparatus, has just brought out a new electric motor, in which a piston of soft iron is attracted up and down in a hollow cylindrical electro-magnetic coil with a motion like that of an